bio-sensors **1442** include one or more dry electrodes for detecting bio-electric signals of the user through the user's skin.

[0120] Photo-sensors **1444** are included to respond to signals from emitters (e.g., infrared base stations) placed in a 3-dimensional physical environment. The gaming console analyzes the information from the photo-sensors **1444** and emitters to determine position and orientation information related to the head-mounted display **1401**.

[0121] In addition, gaze tracking system **1446** is included and configured to enable tracking of the gaze of the user. For example, system **1446** may include gaze tracking cameras which captures images of the user's eyes, which are then analyzed to determine the gaze direction of the user. In one embodiment, information about the gaze direction of the user can be utilized to affect the video rendering. Video rendering in the direction of gaze can be prioritized or emphasized, such as by providing greater detail, higher resolution through foveated rendering, higher resolution of a particle system effect displayed in the foveal region, lower resolution of a particle system effect displayed outside the foveal region, or faster updates in the region where the user is looking.

[0122] The foregoing components of head-mounted display **1401** have been described as merely exemplary components that may be included in head-mounted display **1401**. In various embodiments of the disclosure, the head-mounted display **1401** may or may not include some of the various aforementioned components. Embodiments of the head-mounted display **1401** may additionally include other components not presently described, but known in the art, for purposes of facilitating aspects of the present disclosure as herein described.

[0123] It will be appreciated by those skilled in the art that in various embodiments of the disclosure, the aforementioned head mounted device may be utilized in conjunction with an interactive application displayed on a display to provide various interactive functions. The exemplary embodiments described herein are provided by way of example only, and not by way of limitation.

[0124] It should be understood that the various embodiments defined herein may be combined or assembled into specific implementations using the various features disclosed herein. Thus, the examples provided are just some possible examples, without limitation to the various implementations that are possible by combining the various elements to define many more implementations. In some examples, some implementations may include fewer elements, without departing from the spirit of the disclosed or equivalent implementations.

[0125] Embodiments of the present disclosure may be practiced with various computer system configurations including hand-held devices, microprocessor systems, microprocessor-based or programmable consumer electronics, minicomputers, mainframe computers and the like. Embodiments of the present disclosure can also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a wire-based or wireless network.

[0126] Although the method operations were described in a specific order, it should be understood that other housekeeping operations may be performed in between operations, or operations may be adjusted so that they occur at slightly different times or may be distributed in a system which allows the occurrence of the processing operations at various intervals associated with the processing, as long as the processing of the telemetry and game state data for generating modified game states and are performed in the desired way.

[0127] One or more embodiments can also be fabricated as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data, which can be thereafter be read by a computer system. Examples of the computer readable medium include hard drives, network attached storage (NAS), read-only memory, random-access memory, CD-ROMs, CD-Rs, CD-RWs, magnetic tapes and other optical and non-optical data storage devices. The computer readable medium can include computer readable tangible medium distributed over a network-coupled computer system so that the computer readable code is stored and executed in a distributed fashion.

[0128] Although the foregoing embodiments have been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications can be practiced within the scope of the appended claims. Accordingly, the present embodiments are to be considered as illustrative and not restrictive, and the embodiments are not to be limited to the details given herein, but may be modified within the scope and equivalents of the appended claims.

What is claimed is:

1. A method, comprising:

receiving a request to view a challenge game between a first player and a second player for a game and obtaining a first video associated with a predefined segment of the game from the first player and a second video associated with the predefined segment of the game from the second player;

executing the challenge game to play the first video alongside the second video in a spectator interface, the executing the challenge game includes:

accessing a first telemetry data associated with the predefined segment of the game played by the first player and a second telemetry data associated with the predefined segment of the game played by the second player,

processing the first telemetry data and the second telemetry data for generating modified game play metrics, and

replacing game states that were produced when the predefined segment of the game was played with the modified game play metrics to produce the first video and the second video, wherein the modified game play metrics are used to identify progress for the challenge game; and

rendering, based on the modified game play metrics, a graphical element for displaying said progress for the challenge game and providing the spectator interface for the request that includes the first video, the second video, and the graphical element for displaying said progress for the challenge game.

2. The method of claim **1**, wherein the challenge game is defined by one or more restrictions and the processing the first telemetry data and the second telemetry data for generating modified game play metrics is based in part on the one or more restrictions.